



BOROUGH OF TORQUAY.



Annual Report

OF THE

MEDICAL OFFICER OF HEALTH,

Thirteenth Report on the Sanatorium,

METEOROLOGICAL REPORT,

THE SANITARY INSPECTORS' REPORT,

AND

SCHOOL ATTENDANCE OFFICER'S REPORT

✂ For 1898. ✂



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Borough of Torquay.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR 1898.

MR. MAYOR, ALDERMEN, AND COUNCILLORS,—

I beg to submit my Annual Report for 1898, which is the twenty-first I have made for the Urban District of Torquay.

BIRTH RATE.—During the past year 451 births have taken place in the Borough, or a rate of 17·6 per 1,000. The birth rate for England and Wales in 1898 was 29·4 per 1,000.

This is a further decline in our birth rate. During the first ten years of my tenure of office as Medical Officer of Health, the average number of births per annum was 596, and for the second period of ten years it was 507. In 1878 the number was 642; consequently the past year was nearly two hundred (191) less.

DEATH RATE.—The number of deaths registered was 398, or a rate of 15·6 per 1,000. Taking again the two periods of ten years for the sake of comparison, we find that during the first decade the figure was 388, and the second 415. During 1898, 63 deaths occurred among visitors and strangers, and, deducting these, the rate for 1898 will be 13·1. The death rate for England and Wales in 1898 was 17·6 per 1,000.

These figures are based on the census of 1891, when the population of Torquay was 25,500.

The various causes of mortality will be seen from the following tables :—

TABLES OF DEATHS DURING 1898 IN THE TORQUAY URBAN DISTRICT, as required by the Local Government Board.

NAME OF DISEASE.					Under 5 years.	Over 5 years.
Small Pox	..	..	..	..	0	0
Scarlatina	..	..	..	..	0	0
Diphtheria	..	..	..	..	0	0
Membranous Croup	..	..	..	..	0	0
Typhus	..	..	..	..	0	0
Enteric	} Fevers	..	..	..	0	4
Continued		..	..	..	0	0
Relapsing		..	..	..	0	0
Puerperal		..	..	..	0	0
Cholera	..	..	..	..	0	0
Erysipelas	..	..	..	..	1	0
Measles	..	..	..	..	2	2
Whooping Cough	..	..	..	..	0	0
Diarrhœa and Dysentery	..	..	..	..	2	0
Rheumatic Fever	..	..	..	..	0	2
Ague ..	..	..	..	..	0	0
Phthisis	..	..	..	..	1	68
Bronchitis, Pneumonia, and Pleurisy	..	..	..	..	11	40
Heart Disease	..	..	..	..	0	49
Influenza	..	..	..	..	0	14
Injuries	..	..	..	..	2	4
All other Diseases	..	..	..	..	64	132
					83	315
Total for 1898					..	398

These figures should be compared with those of previous years, as seen in the following table :—

CAUSES OF DEATH IN TORQUAY FOR TEN YEARS.

CAUSES.				'89	'90	'91	'92	'93	'94	'95	'96	'97	'98
Small Pox	..	..	..	0	0	0	0	0	0	0	0	0	0
Scarlatina	..	..	..	1	0	0	0	0	1	2	1	0	0
Diphtheria	..	..	..	0	0	2	0	1	1	1	1	1	0
Membranous Croup ..	..	..	..	1	1	2	1	2	1	1	1	2	0
Fever.	{	Typhus	..	0	0	0	0	0	0	0	0	0	0
		Enteric or Typhoid ..	..	1	1	2	2	0	8	5	3	4	4
		Continued	..	0	0	0	0	0	0	0	0	0	0
		Relapsing	..	0	0	0	0	0	0	0	0	0	0
		Puerperal	..	1	0	0	0	0	0	0	0	0	0
Cholera	..	..	..	0	0	0	0	0	0	0	0	0	0
Erysipelas	..	..	..	0	0	1	0	0	0	0	0	1	1
Measles	..	..	..	2	1	3	8	0	0	16	9	0	4
Whooping Cough ..	..	..	..	0	16	0	2	8	4	1	14	1	0
Diarrhœa and Dysentery..	..	..	..	3	1	1	3	2	3	2	3	2	2
Rheumatic Fever ..	..	..	..	1	0	4	1	1	0	1	1	1	2
Ague	..	..	..	0	0	0	0	0	0	0	0	0	0
Phthisis	..	..	..	52	67	67	60	70	71	73	54	74	69
Bronchitis, Pleurisy, and	..	..	..										
Pneumonia	..	..	..	51	63	53	64	64	72	79	60	36	51
Heart Disease	..	..	..	48	36	44	38	35	43	42	49	50	49
Influenza	..	..	..	—	—	—	—	—	—	—	7	2	14
Injuries	..	..	..	10	8	9	13	17	9	14	15	7	6
All other Diseases ..	..	..	..	199	235	214	228	235	197	219	219	202	196
Total	..	..	..	370	429	402	420	435	410	456	437	383	398

ZYMOTIC DEATH RATE.—Eleven deaths have been caused by ordinary zymotic diseases, or a rate of $\cdot 43$. This is the same as in 1897, and is very low. In 1896 it was $1\cdot 29$; in 1895, $1\cdot 13$; and in 1894, $\cdot 7$.

SCARLATINA.—Thirty-four cases have been notified, and only one of them had a history of importation. They were all of a very mild type, and there was no fatality.

DIPHTHERIA.—Four cases notified, of which three were treated with Antitoxin. All four recovered, and generally speaking they were of a mild character. One was in a large villa residence, where every accommodation could be provided; but the others occurred in homes where the space was limited, and these were removed to the

Sanatorium, where ample space and good nursing, both by night and by day, could be had. These points are of tremendous importance in treating any sickness, but especially in diphtheria cases. In fact no matter what medical skill is bestowed on such patients, without first-class nursing and free supply of fresh air, the chances are terribly against the sufferer.

ENTERIC FEVER.—I have received notification of eleven cases, of which two were imported: four, when admitted to the Torbay Hospital and carefully watched, turned out to be suffering from some other disease; consequently we have five cases to account for. Two of these need particular comment, especially as both were very severe in type and ended fatally. The banks of the Teign are much frequented in summer, and one of the principal attractions is a dish of cockles. I have ascertained that this shell fish is eaten either in a raw state, or partially cooked; that is, after having been kept in hot water long enough to kill the mollusc, and so cause the shells to open. The cockles are picked up from the bed of the Teign, and into that is poured the whole of the sewage of Newton Abbot; consequently it is easy to understand that what has been proved in the case of the oyster, should also apply to the cockle. Both the cases to which I allude (and I know of another (non-fatal) case in a neighbouring parish) had visited some such resort as I have pointed out, and had there partaken of cockles, but whether raw or partially cooked I am unable to say. The moral of this is clear. Either do not eat cockles at all; or, if bent on risky experiments, see that the mollusc is boiled, after having been removed from the shell, for at least one hour. The first suggestion is

simplest and safest. When one remembers that cockles are sold in the streets from carts and baskets, this may sometimes explain the origin of typhoid cases where no defects are to be found in the homes of the patients.

MEASLES.—The next item worthy of comment is four deaths from measles. I have had to close St. James, Upton, and Tor Schools on account of this troublesome disorder, and I doubt very much whether it has yet burnt itself out. Of all epidemics this is the most unmanageable, and I see no evidence of towns notifying measles being any better off than ourselves; with the extra disadvantage of having to pay enormous sums for notification. As soon as I hear of a child being absent from school on account of measles, I at once send a number of “Measles” circulars to the school, and arrange for each child taking one home to its parents. In this circular the disease is described, and the precautions laid down to prevent mischief; but all in vain. It is, in fact, absolutely impossible for the majority of the mothers in the homes of the working classes to look after their children when laid up with measles. The little patients get out of their warm beds, run about the passages half clothed, catch cold, and then very soon bronchitis, or pneumonia, finishes the case. It is, in my opinion, extremely rare to have a fatal case of measles in well-to-do houses, where constant watching and nursing can be provided.

INFLUENZA.—No less than fourteen deaths have been attributed to this disorder. There were a great many severe cases in the spring, and I suspect that some who survived the epidemic afterwards succumbed to “Bronchitis,” “Heart,” and perhaps “Phthisis.”

VISITORS.—The causes of death among visitors and strangers were as follows:—Tubercular disease of the

chest, 28 ; bronchitis and pneumonia, 8 ; typhoid, 1 ; heart disease, 7 ; rheumatic fever, 1 ; injury, 2 ; influenza, 1 ; and all other diseases, 15 ; total, 63.

COMPARATIVE TABLE OF THE AGE AT WHICH DEATH OCCURRED.

	At all ages.	Under 1 year	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
1889	370	67	25	18	28	102	130
1890	429	81	37	16	30	112	153
1891	402	55	25	19	27	105	171
1892	420	74	34	8	25	103	176
1893	435	69	25	9	28	151	153
1894	410	62	38	8	36	114	152
1895	456	75	58	13	34	141	135
1896	437	76	37	11	28	148	137
1897	383	64	15	8	27	144	125
1898	398	58	25	7	26	128	154

VACCINATION.—The recent legislation in respect of vaccination appears to me to be a most extraordinary movement in a backward direction. As far as Torquay is concerned, this “tremendous experiment” is absolutely uncalled for. Mr. Barclay, the Vaccination Officer, has supplied me with the figures for 1897—i.e., the last year under the old régime—and they are, to say the least, very creditable to the intelligence of the inhabitants of this portion of South Devon. Mr. Barclay has in his district the following parishes, viz., Torquay, St. Mary-Church, Cockington, Kingskerswell, Coffinswell, Dacombe, and Stokeinteignhead, with a total population, according to the last census, of 35,792. In these parishes during 1897 there were born 679 children, and the following table shows how they may be classified as regards vaccination :—

Vaccinated ..	..	..	..	..	574
Insusceptible	..	..	..	..	3
Dead ..	..	..	..	..	59
Postponed ..	..	..	..	..	15
Removed to other districts	..	..	..	..	21
Not vaccinated	..	..	..	..	7

Of the 7 “not vaccinated” 2 belonged to “anti-vaccination” families, and 5 had not been vaccinated by the time these figures had been worked out for me. Mr. Barclay further tells me that in ten years there had been thirteen prosecutions only, and these were in respect of children belonging to nine families. Now, where was the need for altering the law for these nine families? It is evident that in South Devon the population at large is decidedly in favour of vaccination as a means of protecting their children from a loathsome and deadly disorder. It is possible to have too much liberty.

MILK SUPPLY.—I have in various Reports drawn your attention to the necessity for having a more effectual control over the farms which supply milk to the town. I claim that there are important reasons for urban communities exercising supervision over the farms, &c., which produce milk: in other words, that the consumer should have control over the producer. When milk is brought into the town milk shops, we can see to the condition of the shop and its belongings, but we know nothing of the farms, cows, cowstalls, the water, or the people on the farms who look after the cows, and send the milk into the towns. I have supplied you from time to time with instances illustrative of the necessity for this power, and I beg to call your attention to another such. Not far from Torquay there is a town which has suffered a good deal from Typhoid during the past autumn, and I have been informed that certain farms have been prohibited from sending milk into that town. Now, I don't for one moment suppose that the tenants on these farms are virtuously fattening their pigs with this milk. Is it sent into Torquay? Into what town is it sent? What becomes of it? These are questions which ought to be answered. Now, if it were illegal to send milk into any town until the authorities of that town had given

permission, and that permission only granted after due inspection and inquiry, then we might have a chance. Until some legislative movement in this direction is made, we can postpone action in respect of tuberculosis in cows. The former can be effected very easily; the latter is a question beset with enormous financial and legal difficulties.

WATER SUPPLY.—Since my last annual report great progress has been made towards completing the purchase of our watershed. Perhaps, in my next, I shall be able to say that no human being is housed on any part of this land.

REFUSE REMOVAL AND DISPOSAL.—The Refuse Destructor, designed and built by Mr. Garrett, your surveyor, has been at work for several weeks, and so far has performed its duties most efficiently.

SALE OF FOODS AND DRUGS ACT.—The County Police took the following samples, and submitted them to the County Analyst; milk 12, bread 12, ice cream 3, whiskey 3, and brandy 3. One case of milk adulteration was brought before the Magistrates and dismissed; all the others were favourably reported on.

BAKEHOUSES.—These have been inspected as usual.

DISTRICT INSPECTION.—In addition to the ordinary general inspections, special districts have been minutely examined. The details of this work will be seen in the reports of Mr. McMahon and Mr. Watson.

I append the fourteenth report on the Sanatorium, and remain,

Mr. Mayor and Gentlemen,

Your obedient Servant,

PAUL Q. KARKEEK, M.R.C.S. & L.S.A.,

January 13th, 1899.

Medical Officer of Health.



Borough of Torquay.

THE MEDICAL OFFICER'S FOURTEENTH REPORT ON THE SANATORIUM

For the Year ending 31st March, 1898.

TO THE CHAIRMAN OF THE SANITARY COMMITTEE.

SIR,

At the close of the financial year 1896-1897 there were two patients in the wards, and from that date to March 31st, 1898, there were admitted 28 fresh cases; making a total of 30 patients under treatment during the twelve months for which I now present the annual report.

Two patients were suffering from diphtheria; one was an imported case; and both were treated with antitoxin successfully. I am quite satisfied that one of these patients owes his life to speedy isolation and scientific treatment. The other cases were all mild forms of scarlatina. There has been no fatality during the year, and all were discharged cured, excepting four who were still in the building on March 31st.

One was a visitor, admitted the day after reaching Torquay, and the remainder were residents in the borough. Three came from villas, five from houses of business, and the others from the homes of the working classes. Among the various families in the last class were the following callings : policeman, musician, painter, tailor, shoemaker, cabman, sailor, gardener, dressmaker, labourer, &c. It will thus be seen that numerous sections of the community participated in the advantages derived from the use of the hospital.

Two patients hired private wards and paid the charges incidental to their stay, the others were all paid for by the Borough Rates : in fifteen cases the medical attendance fees were provided from the same source.

The cost of working during the twelve months will be seen from the following statement of accounts :—

EXPENDITURE.						£	s.	d.
Diet of Patients	..	..	..	..	..	87	2	6
Wages and Diet of Nurses	..	..	..	..	..	99	0	0
Laundress	..	..	..	..	..	54	0	0
Curator	..	..	..	..	..	50	9	5
Surveyor's Account	..	..	..	..	..	12	13	8
Tradesmen's Accounts	..	..	..	..	..	90	11	7
Rent, Rates, and Insurance	..	..	..	..	..	19	14	0
Drugs	..	..	..	..	..	10	0	0
Medical Fees	..	..	..	..	..	15	15	0
Conveyance of Patients	..	..	..	..	..	7	13	0
Coal, Coke, and Wood	..	..	..	..	..	36	4	0
Rent of Telephone	..	..	..	..	..	10	10	0
						<u>£493 13 2</u>		
RECEIPTS.								
Paid by Patients	..	..	..	..	..	29	14	0
Deficit	..	..	..	..	..	463	19	2
						<u>£493 13 2</u>		

These figures should be compared with those of previous years :—

1894	Report	....	76	Patients	....	Cost, £740	9	8	....	Deficit, £651	10	4
1895	„	....	138	„	....	„ 1,374	13	4	....	„ 1,257	16	2
1896	„	....	80	„	....	„ 726	10	3	....	„ 639	6	10
1897	„	....	58	„	....	„ 609	19	7	....	„ 547	0	7
1898	„	....	30	„	....	„ 493	13	2	....	„ 463	19	2

One important item included in "Tradesmen's Accounts" was £25 10s. for repainting the outside of the various buildings.

I have been quite satisfied with the way Mr. and Mrs. Arnall and Nurse Hunt have carried out their duties. I have had special opportunities during the past year of ascertaining how the work of the staff is performed in respect of the comfort and satisfaction of the patients; and am pleased to be able to report that not only has no complaint been made, but that the patients have expressed themselves as grateful and pleased at the treatment they have received.

I remain, Sir,

Your obedient servant,

PAUL Q. KARKEEK, M.R.C.S. & L.S.A.,

Medical Officer of Health.

August 16th, 1898.



BOROUGH OF TORQUAY.



METEOROLOGICAL REPORT

FOR THE YEAR 1898.



ALFRED CHANDLER, F. R. Met. Soc.,

Borough Meteorologist

REPORT.

*To the Mayor, Aldermen, and Councillors of the
Borough of Torquay.*

GENTLEMEN,

I have the honour to submit my Annual Report of the Meteorological work at the Borough Observatory, Chapel Hill, and Cary Green, for 1898.

The Instruments belonging to the Corporation and also those loaned by the Torquay Natural History Society, with the exception of the Campbell-Stokes' Sunshine Recorder, have been kept in continuous use, in good working order, and read twice daily, at 9 a.m. and 4 p.m., local time, and the readings so obtained have been carefully recorded and worked up with their proper correction applied.

In consequence of the imperfect work performed by the Campbell-Stokes' Sunshine Recorder, from causes stated in my Annual Report of 1897, I found it necessary in the summer to take down the Instrument, and Mr. Casella, of London, undertook to examine the lens, when he found it was composed of flint glass, containing lead, which prevented the Instrument recording all the Sunshine. Mr. Casella has lately sent to me a Standard lens of Crown glass for trial, and I find it works admirably, being more exact in its records than the Jordan Photographic Instrument.

It is desirable to have the Standard Instrument (Campbell-Stokes') in use at this Observatory, so that our records may be comparable with the other leading Stations

of the Royal Meteorological Society and the Meteorological Office, and I would strongly recommend the Corporation to purchase the Lens.

In consequence of the break caused by the dismantling of the Instrument, I have been unable to print in this Report the results of the Instrument for the past year.

The Robinson Automatic Embossing Anemometer, which is the most complicated instrument I have under my care, has been taken down several times during the year and all the gear work thoroughly cleaned and oiled.

As this Instrument had been in use for some years before being purchased by the Council, it will be necessary very soon to have it sent to the Makers (Casella) for thorough repair.

The more modern Instrument now in use is the Dine's Water-pressure Tube Anemometer, which registers the force or pressure of wind with greater accuracy than the one we have at this Observatory ; and before going to the expense of repairing the old Instrument, it may be advisable to procure the newer Anemometer.

On August 25th Mr. W. Marriott, the Assistant-Secretary of the Royal Meteorological Society, made his triennial visit of inspection, and he examined all the Instruments in use and compared them with the Standards. He found everything in order with the exception of the Maximum Thermometer at Cary Green, which, when tested with the Standard, was found to register too low by 0·9 of a degree, and this Instrument, as soon as possible, I sent to Casella for adjustment.

The usual Weather Telegrams have been sent off and Reports supplied to the Representatives of the Newspapers daily throughout the year and published in the following Newspapers :—

<i>London Standard</i>	<i>Leeds Mercury</i>
„ <i>Chronicle</i>	„ <i>Yorkshire Post</i>
<i>Birmingham Daily Post</i>	<i>Bradford Observer</i>
„ <i>Gazette</i>	<i>Newcastle Daily Chronicle</i>
<i>Sheffield Daily Telegraph</i>	<i>Glasgow Daily Mail</i>
„ <i>Independent</i>	<i>Bristol Times and Mirror</i>
<i>Manchester Guardian</i>	<i>Western Morning News</i>
„ <i>Journal of</i>	„ <i>Daily Mercury</i>
<i>Commerce</i>	<i>Torquay Directory</i>
<i>Liverpool Daily Post</i>	„ <i>Times</i>
„ <i>Journal of</i>	„ <i>Observer</i>
<i>Commerce</i>	

The Weekly, Monthly, and Annual Reports have, as usual, been sent to the Royal Meteorological Society for publication in their Official Journal; to the Meteorological Office, which has for many years published our Sunshine Records in its “Weekly Weather Report of the British Isles and the whole of Europe,” and to Mr. Symons for publication in the “Meteorological Magazine” and “British Rainfall.”

The observations are also published with others relating to the County of Devon in the annual “Climate of Devon Report” by the Devonshire Association, and I have again supplied to “Whittaker’s Almanack” a Report on the Temperature of Torquay.

Owing to want of space the Travel Editor of the “Queen” Newspaper has not been able to insert the Weather at the Health Resorts, which I had previously sent to him every week for several past Winters.

At the request of the Town Clerk I have made enquiries with regard to the possibility of publishing our daily Weather Telegrams in more of the London Daily Papers, and the principal Clubs and Hotels. The Central News, Ltd., would be willing to distribute a condensed Report amongst the Newspapers and Clubs, but not to Hotels.

The work would involve an extra daily morning telegram, as they must be sent before 10 a.m., the cost of the telegrams being 6s. per week extra to what is already paid out for the daily telegrams. Our usual evening telegrams are prepared and sent off at 4 p.m.

I have continued to act as secretary of the "Climate of Devon Committee" of the Devonshire Association, and with the help of Mr. Ingham, your Waterworks Engineer, who is also a member of the Committee, the Annual Report was prepared, and has been largely distributed since the meeting of the Association at Honiton in August.

In the autumn I commenced placing the daily readings of the Instruments at the Royal Princess Gardens and the Town Hall. Mr. Chas. Shapley, F.R.Met.Soc., has also placed the readings on the Strand and sends them to the principal local hotels daily.

I have again the pleasure of informing the Council of the voluntary help rendered to me by Mr. Chas. Shapley, in carefully reading the Instruments at Cary 'reen and sending to me, by my messenger, the daily figures so obtained.

I also beg to acknowledge the kindness of the Council of the Torquay Natural History Society in its generous loan of the Standard Meteorological Instruments, which are in constant daily use at this Observatory.

I am, Gentlemen,

Your obedient Servant,

ALFRED CHANDLER, F.R.MET.SOC.



Chapel Hill Observatory, from the South.



Chapel Hill Observatory, from the North.

THE OBSERVATORY.

POSITION AND BUILDING.

The Observatory is built on limestone rock at the summit of the quarry, and at the back or N. side of the old ruined Chapel; about $\frac{3}{4}$ mile from the sea, overlooking Torbay and the English Channel. The ground level is 276 ft., and the top of the building 286 ft. above mean sea level. The part of the building immediately under the Sunshine Instruments is built of solid limestone to prevent vibration. This was designed in 1888 by Mr. J. Hall, Assoc. M. Inst. C.E., and the last addition, with the erection of the Anemometer and a larger computing room for the Observer, early in 1894 by Mr. H. A. Garrett, Assoc. M. Inst. C.E.

Through a slight error in the foundations of the original buildings, the Observatory is not quite true astronomical N. and S., but the instruments are all fixed in a true direction.

The latitude is $50^{\circ}29'$ N., and the longitude $3^{\circ}32'$ W. = to 14 minutes after Greenwich Mean Time.

The Observatory is organised and maintained by the Town Council, under the supervision of the Royal Meteorological Society.

THE INSTRUMENTS.

SUNSHINE RECORDERS.

These are (1) a Jordan Photographic Twin Instrument, which has been in use here for 11 years, and is used as the Standard Instrument ; (2) A Campbell-Stokes Lens-burning Instrument, with Professor Stokes's zodiacal card holder. The Photographic Instrument is on the S. and the Campbell-Stokes on the N. side of the tower. The Campbell-Stokes is the older of the two instruments, and in its original form was invented by Mr. J. F. Campbell ; but in its present form, with its zodiacal frame, and in the patterns for use in different latitudes, it has been much improved by Professor Stokes, F.R.S., the Greenwich and Kew Observers, and Messrs. Beckley, Casella, and Negretti and Zambra. There is at the present time much discussion amongst Meteorologists as to the exactitude of the two instruments, which give a difference of sunshine duration of from 5 to 16 per cent., the Jordan Instrument always giving in the monthly totals the larger amount ; but occasionally in the daily totals less than the Campbell-Stokes Instrument.

It is alleged that the Campbell-Stokes measure only bright sunshine, and that the Jordan measures sunlight as well as sunshine ; but from the work done here for the past 11 years with the Photographic Instrument no trace of measured sunlight has been on the charts, after they have

been immersed in water, face upwards, according to the instructions issued to Observers by the Royal Meteorological Society.

The Photographic Instrument is more troublesome than the Campbell-Stokes Instrument, but taking the different states of the atmosphere into consideration all the year round, it is the more accurate and sensitive Instrument of the two.

With regard to the alleged discrepancy in the results of two Instruments it has been lately discovered that the solid glass balls of many of the Campbell-Stokes Recorders have been supplied of flint glass, "made in Germany," at a cheap rate, which contained a large amount of lead, and of these lenses some give a considerably reduced amount of sunshine burnt on the card, and some would not work at all.

The proper or Standard lens to be used should be of Crown Glass, and all those used by the Meteorological Office are of this description, made of uniform quality, weight, and size, by the Messrs. Chance, of Birmingham. Also, unfortunately, the focus error has been a cause of very much trouble, and the Campbell-Stokes Instrument used at this Observatory, whilst it was supposed to be accurate in regard to quality of glass, weight, and size, has been working for the past 5 years, unknown to the Observer, with a considerable focal error; this has now been remedied; but the results from this Instrument for the period named are absolutely wrong, having, through the focus error, given too low a record, hence the great difference of results between the two Instruments.

Meteorologists are much indebted to Mr. R. H. Scott, F.R.S., Secretary of the Meteorological Council, and to Mr. Joseph Baxendell, F.R. Met. Soc., Meteorological Observer for the Borough of Southport, for the discovery of these

errors and for applying the remedy to ensure more accuracy and similarity in the results of these important Observations.

The work done by the Campbell-Stokes Sunshine Recorder during the year 1898 being incomplete, in consequence of the Lens having been sent to London for further examination, the full results for this year cannot be given, and are therefore omitted from the Report. A new Lens, made of English Crown Glass, is being tested, and, in the short time it has been in use during the winter months, is giving accurate results.

These Sunshine Recorders of comparatively recent introduction, now so universally used, which are also Sun Dials, as well for the measurement of time as for the amount of the daily duration of Sunshine, and are, I think, a means of accurate instrumental measurement of the mean daily amount of Cloud, these Instruments, are yet open to great improvement, not so much as to the type of pattern of Instrument, but in more accurate uniformity amongst Observers, and doubtless will in the future be made as exact in measurement and definition as are the Telescope, the Spectroscope, the Barometer and Thermometer.

With regard to the capability of these Instruments as measurers of the mean amount of Cloud, which ought certainly to be a more accurate method than Eye Observations, with the errors arising from "personal equation," I have ventured to give on page 20 of this Report a small table of figures of comparison, based on the simple method of reckoning as Cloud that which remains per centum of the amount of Sunshine actually recorded by the Instrument, as against the possible Sunshine which would be recorded were the sky continuously clear throughout the period of the day when the Sun is above the horizon. The comparison Eye

Observations of Cloud there given is the daily mean of three Observations made at 9 a.m., at Noon, and at 4 p.m., and I hope to give this table of figures annually, so that, after a period of five years or more, we may see whether this statement can be verified.

ANEMOMETER.

The Anemometer, for registering the velocity and direction of the wind and the time of its various changes is a Robinson embossing, self-recording instrument by Casella. The general principle of this instrument is the invention of Dr. Robinson, of Armagh, in which four hemispherical cups of five inches diameter, fixed on twelve-inch arms, revolve with the pressure of the wind. The very ingenious registering parts of the instruments and also the vane are new, and were designed by Mr. Beckley, of Kew Observatory, and Mr. Casella. The force-and-die principle of embossing is the means of registration here adopted. The paper employed for receiving the hourly velocity and direction marks is blue in colour and formed of narrow strips, rolled round a small attached roller, from which it is drawn and embossed on one edge by the action of the rollers, which are divided to represent miles, figured at every five miles of horizontal wind velocity. The clock raises the hammer, which falls once in every hour, impressing the other edge of the paper with an arrow, whose movements correspond with the larger one driven by the wind, and this shows its exact direction at every hour of time. The rate of speed is also shown during each preceding hour by the distance travelled over the paper between each successive imprint of the arrow. The projection under the large arrow (outside) contains metal balls which firmly support the top and aid in giving freedom of action to the

vane. The square box (outside) is of cast iron, and contains the stronger portion of the wheelwork, and chains from this gear-work act on the velocity rollers and the arrow attached to the clockwork below. From these automatic hourly observations are obtained the velocity of the wind, its direction and estimated force, but the latter is not very reliable, and, to make the instrument complete, an automatic pressure plate should be added, as in Osler's Anemometer, which shows the maximum push or thrust of the wind in pounds weight on the square foot, and the time when such maximum pressure takes place, the speed of the wind at the same time being recorded by the Robinson Cups.

BAROMETERS.

The Standard Barometer is one of Negretti and Zambra's Mercurial Instruments, on the Fortin adjusting principle. The mercurial reservoir is 279 ft. above mean sea level. The instrument is read twice daily, with the Vernier index, and the readings are reduced to mean sea level and 32° Fahr.

The self-recording Aneroid Barometer is placed by its side for purposes of comparison.

THERMOMETERS AND SCREENS.

The Shade Thermometers, by Casella, consist of a mercurial Maximum, a spirit Minimum, a Dry and Wet Bulb Thermometers for hygrometrical measurements. The screen containing these instruments is a Stevenson's double louvre, placed over glass, with the bulbs of the Thermometers 4 ft. from the ground.

An exact duplicate of these instruments and screen is at Cary Green (12 ft. above mean sea level).

The Solar Thermometers, by Negretti and Zambra, are a black bulb and a bright bulb in vacuo instruments, both mercurial, and both registering the maximum temperature in the sun, the difference in reading between the two instruments being a measure of the amount of solar radiation.

The Grass Thermometers are Hicks's spirit Minimum Instruments, placed on grass about one inch above the level of the ground, the Instrument at Cary Green having the new Mica scale for reading.

The Richard Self-Recording Thermometer is placed in a Stevenson's screen, and shows approximately the time when the highest and lowest temperature takes place. It is most useful for purposes of comparison, and it is wonderfully accurate when its construction is considered; but it cannot be so exact and sensitive as the mercurial or spirit Thermometer, depending as it does upon the lengthening and shortening of a metal plate, as the temperature varies, acting on a crank lever connected to an arm carrying a pen, which writes the curve of temperature on the chart on the clock cylinder.

All the Thermometers are degree marked on the stem, verified at Kew Observatory, and are read with their errors corrected.

RAINGAUGE.

The Raingauges at Cary Green and Chapel Hill are 5 inches in diameter, placed 1 ft. above the level of the ground. They are the Snowdon pattern, with a deep rim for the measurement of snow.

OZONOMETER.

This is Dr. Moffat's pattern, which consists of strips of paper prepared with Iodide of Potassium and Starch; these papers are suspended in a copper box with a double covering of fine wire gauze, so as to allow of the free access of air to the suspended papers, protected from the direct rays of the sun, and also from rain. The papers, when affected by Ozone, are tinged with various shades of brown, the intensity of which is measured by a scale of ten gradations of colour.

AVERAGES.

The averages of Sunshine are for eleven years' Observations. Those of Temperature and Rainfall are for twenty-two years, and the Barometer fifteen years, being the means of Mr. E. Glyde's Babbacombe Observations and the Cary Green and Chapel Hill Observations.

TIME OF READING.

All the Instruments are read twice daily, at 9 a.m. local time = 9.14 G.M.T., and 4 p.m. local time = 4.14 G.M.T., the instruments at Cary Green being read by Mr. C. Shapley, F.R. Met. Soc.



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N. B.—The following figures may be taken as the most accurate Record of the duration of Sunshine in Torquay obtainable in the present unsatisfactory stage of development of these Instruments; the Instrumental Errors, which are certainly large, and the use of two widely different pattern of Instruments, being, and are likely to remain for another generation of Observers, a warmly disputed quantity.

SUNSHINE.

Recorded by the Jordan Photographic Twin Instrument.

The Standard Instrument for Eleven years at this Observatory. (See remarks pp. 10-11-12.)

1898.	Possible Sunshine.	Actual Sunshine.	Percentage Actual of Possible.	Morning. Sunshine.	Afternoon Sunshine.	Difference from Average.	Greatest Daily Amount of Sunshine.	Percentage Actual of Possible	Date.	Days on Which Sun Shone.	Sunless Days.
	H. M.	H. M.	%	H. M.	H. M.	H. M.	H. M.	%			
January ...	260. 0	30. 50	11·9	14. 0	16. 50	−35. 45	7. 0	86·8	7th	18	13
February ...	276. 0	102. 45	37·2	59. 15	43. 30	+27. 0	8. 45	82·3	26th	26	2
March	364. 0	132. 40	36·4	71. 0	61. 40	−11. 45	10. 20	85·2	21st	27	4
April	410. 0	192. 5	46·8	86. 50	105. 15	+13. 30	12. 55	93·6	17th	29	1
May	475. 0	170. 0	35·8	84. 30	85. 30	−61. 20	13. 25	90·2	6th	26	5
June.....	486. 0	229. 45	47·3	105. 5	124. 40	−7. 15	13. 55	85·8	11th	30	0
July	487. 0	255. 45	52·5	126. 40	129. 5	+60. 25	14. 30	90·0	5th	31	0
August.....	443. 0	193. 35	43·7	99. 20	94. 15	+0. 50	12. 0	83·3	11th 17th	31	0
September..	373. 0	213. 25	57·2	91. 25	122. 0	+55. 40	12. 25	93·4	2nd	30	0
October ...	327. 0	89. 40	27·4	39. 50	49. 50	−24. 45	9. 35	83·9	2nd	23	8
November ..	264. 0	56. 40	21·5	30. 30	26. 10	−4. 25	8. 15	86·2	1st	18	12
December ..	241. 0	59. 5	24·5	29. 50	29. 15	+4. 20	7. 25	94·6	30th	22	9
Year...	4406. 0	1726. 15	39·2	838. 15	888. 0	+16. 30	14. 30	90·0	July 5th	311	54

SHADE TEMPERATURE. Chapel Hill (The High-Level Station).

AT 9 A.M. (LOCAL TIME).

For description of the Standard Instruments used, See pp. 14-15.

1898.	Maximum <i>mean.</i>	Minimum <i>mean.</i>	Max. and Min. <i>mean.</i>	Range <i>mean.</i>	Highest.	Date.	Lowest.	Date.	Dry Bulb. <i>mean.</i>	Wet Bulb. <i>mean.</i>	Relative Humidity.	Cloud. Mean of three Obs. daily.	Difference of <i>Mean</i> Temperature between High and Low-Level Stations.
January ...	49.3	42.7	46.0	6.6	55.5	21st	33.9	8th	46.0	44.9	91.	0 to 10	1.5 higher at Cary Green
February ...	48.7	37.4	43.1	11.3	55.0	1st	28.3	24th	42.3	40.5	86.	3.5	1.4
March	47.2	34.9	41.1	12.3	56.0	16th	28.3	25th	40.9	38.8	82.	6.5	1.4
April	54.8	41.5	48.2	13.3	58.2	21st	32.2	5th	49.4	46.7	80.	5.9	0.7
May	58.6	45.8	52.2	12.8	68.7	23rd	38.9	17th	53.5	50.1	78	7.1	0.7
June	64.7	49.9	57.3	14.8	73.9	11th	40.0	15th	59.4	55.1	74.	5.9	0.8
July	69.3	53.3	61.3	16.0	78.7	16th	46.4	4th	63.9	58.3	69.	5.5	1.4
August	69.2	55.7	62.5	13.7	77.7	15th	47.9	9th	64.6	60.3	75.	6.1	1.1
September..	67.9	53.9	60.9	14.0	77.2	8th	46.2	28th	63.2	58.4	73.	5.3	0.9
October ...	59.3	50.4	54.9	8.9	66.5	21st	41.5	12th	54.9	53.2	88.	7.5	1.8
November ..	52.1	43.0	47.6	9.1	59.5	16th	30.6	30th	47.6	46.4	91.	7.8	1.8
December ..	51.0	43.6	47.3	7.4	56.8	26th	33.2	20th	47.5	46.0	88.	7.7	1.5
Year...	57.7	46.0	51.9	11.7	78.7	July 16th	28.3	Feb. 24th, March 25th	52.8	49.9	80.	6.7	1.2 higher at Cary Green

CLOUD OBSERVATIONS with the Sunshine Recorders.

INSTRUMENTAL v. EYE OBSERVATIONS.

See remarks pp. 12-13.

1898.	Per centage of Actual Sunshine.	INSTRUMENTAL OBSERVATIONS. Per centage of overcast sky or cloud.	EYE OBSERVATIONS. Per centage of Over Cast Sky Three Obs. at 9 a.m., Noon, and 4 p.m.	Difference + Instrumental - Eye.
	%	%	%	%
January	11.9	89.1	85.5	+ 3.6
February	37.2	62.8	70.0	- 7.2
March	36.4	63.6	65.5	- 1.9
April	46.8	53.2	59.3	- 6.1
May	35.8	64.2	71.0	- 6.8
June.....	47.3	52.7	59.3	- 6.6
July	52.5	47.5	55.2	- 7.7
August.....	43.7	56.3	61.0	- 4.7
September	57.2	42.8	53.0	- 10.2
October	27.4	72.6	74.8	- 2.2
November	21.5	78.5	77.7	+ 0.8
December	24.5	75.5	77.1	+ 1.6
Year.....	39.2	60.8	67.4	- 6.6

SOLAR AND GRASS TEMPERATURES.

For description of the Standard Instruments used in these Observations, See p. 15.
For the column "Mean Solar Radiation," the result is found by the difference between the Shade Mean Max. Temp.
in the Screen and the absolute Mean Max. Temp. in Sun.

1898.	IN SUN, Black Bulb in vacuo					ON GRASS			
	Maximum <i>mean.</i>	Mean Solar Radiation.	Highest.	Date.		Minimum <i>mean.</i>	Lowest.	Date.	Number of Days at 32° and below.
January ...	63·3	14·0	84·2	3rd		40·4	30·2	8th	2
February ...	87·4	38·7	101·2	27th		34·0	25·5	24th	13
March	85·8	38·6	103·8	23rd		31·9	26·0	6th	22
April	98·2	43·4	111·2	15th		38·0	29·2	5th	6
May	100·0	41·4	103·4	31st		44·4	33·5	17th	0
June.....	110·7	46·0	124·2	30th		47·6	37·5	15th	0
July	113·6	44·3	129·6	17th		50·6	41·5	30th	0
August.....	112·9	43·7	124·3	23rd		53·8	45·2	9th	0
September .	111·0	43·1	119·9	15th		50·3	41·0	19th	0
October ...	89·1	29·8	112·0	8th		47·4	39·3	12th	0
November...	71·1	19·0	95·9	1st		40·1	26·5	23rd	4
December ..	68·7	17·7	84·1	8th		41·0	28·0	31st	2
Year...	92·7	35·0	129·6	July 17th		43·3	25·5	Feb. 24th	49

RAINFALL. Chapel Hill (*The High-Level Station*).

The Standard 5-inch Snowdon Gauge on the Ground.

1898.	Total Amount.	Difference from Average.	Wet Days, or falls of 0.01 in. and more.	Mean Wet Day Rate of Rainfall.	Greatest fall in 24 hours.	Date of Greatest Fall.
January	<i>inch</i> 0.95	<i>inch</i> - 2.26	8	<i>inch</i> 0.12	<i>inch</i> 0.26	20th
February	1.97	- 0.57	20	0.10	0.97	21st
March ..	1.91	- 0.67	16	0.12	0.76	6th
April	1.32	- 1.10	13	0.10	0.51	29th
May	3.29	+ 1.33	18	0.18	0.48	20th
June.....	1.44	- 0.83	11	0.13	0.35	5th
July	0.29	- 2.36	7	0.04	0.12	19th
August.....	2.22	- 0.56	12	0.19	1.14	18th
September	0.74	- 1.66	6	0.12	0.50	29th
October	6.28	+ 2.13	20	0.31	1.64	16th
November	3.71	- 0.20	17	0.22	1.09	23rd
December	3.76	+ 0.12	17	0.22	0.86	6th
Year.....	27.88	- 6.65	165	0.17	1.64	Oct. 16th

RAINFALL. Cary Green (The Low-Level Station).

The Standard 5-inch Snowdon Gauge.

1898.	Total Amount.	Difference from Average.	Wet Days, or falls of 0.01 in. or more.	Mean Wet Day Rate of Rainfall.	Greatest Fall in 24 hours.	Date of Greatest Fall.
January	<i>inch</i> 0.88	<i>inch</i> - 2.33	6	<i>inch</i> 0.15	<i>inch</i> 0.35	20th
February	2.24	- 0.30	15	0.15	1.20	21st
March	1.87	- 0.71	12	0.16	0.80	6th
April	1.27	- 1.15	11	0.12	0.55	29th
May	3.17	+ 1.21	17	0.19	0.48	20th
June	1.39	- 0.88	10	0.14	0.35	5th
July	0.24	- 2.41	6	0.04	0.07	19th
August	2.10	- 0.68	13	0.16	1.00	18th
September	0.80	- 1.62	6	0.13	0.58	29th
October	5.88	+ 1.73	18	0.33	1.31	16th
November	3.99	+ 0.08	14	0.29	1.10	23rd
December	3.79	+ 0.15	16	0.24	0.96	27th
Year.....	27.62	- 6.91	144	0.17	1.20	Feb. 21st

BAROMETER AT 9 A.M. (LOCAL TIME).

For description of the Standard Instrument used for these Observations, See p. 14.

1898.	Mean of Month.	Difference from Mean Monthly Average of 15 years.	Highest of Month.	Date.	Lowest. of Month.	Date.
January	<i>inch</i> 30·336	+ 0·277	<i>inch</i> 30·683	29th	<i>inch</i> 29·289	1st
February	30·032	— 0·006	30·368	12th	29·158	21st
March	29·927	— 0·040	30·261	10th	29·442	30th
April	29·910	+ 0·047	30·291	8th	29·256	30th
May	29·853	— 0·108	30·454	7th	29·341	12th
June..	30·007	— 0·004	30·283	14th 15th	29·573	25th
July	30·143	+ 0·167	30·374	10th	29·851	23rd
August.....	30·014	+ 0·058	30·222	25th	29·678	8th
September	30·076	+ 0·057	30·366	15th	29·717	27th
October	29·796	— 0·158	30·282	2nd 3rd	28·736	17th
November	29·824	— 0·102	30·324	15th	28·640	25th
December	30·104	+ 0·095	30·503	20th	29·202	29th
Year.....	30·002	+ 0·024	30·683	Jan. 29th	28·640	Nov. 25th

ANEMOMETER.

For description of the Standard Instrument used for these Observations, See pages 13-14.

1898.	Total Horizontal Motion.	Mean Daily Velocity.	Mean Hourly Velocity.	Greatest Daily Velocity.	Mean Hourly Velocity.	Greatest Velocity in One Hour.	Date.	Time.	Direction.	
									Southerly to Westerly	Northerly to Easterly
	miles	miles	miles	miles	miles	miles				
January	5839	188.4	7.9	763	31.8	44	30th	9 to 10 p.m.	21	10
February	8686	310.2	12.9	662	27.6	38	2nd	5 to 6 a.m.	24	4
March	7195	232.1	9.7	545	22.7	35	1st	11 to 12 noon	16	15
April	6774	225.8	9.4	633	26.4	35	10th	3 to 4 p.m.	15	15
May	6960	224.5	9.4	580	24.2	30	11th	11 to 12 noon	15	16
June	5816	193.9	8.1	472	19.7	24	1st	2 to 3 p.m.	24	6
July	4871	157.1	6.5	406	16.9	23	23rd	3 to 4 p.m.	23	8
August	6286	202.8	8.4	414	17.3	31	5th	10 to 11 a.m.	19	12
September ...	3827	127.6	5.3	362	15.1	25	30th	6 to 7 a.m.	18	12
October	6450	208.1	8.7	469	19.5	30	22nd	9 to 10 a.m.	18	13
November ...	5545	184.8	7.7	579	24.1	34	2nd	11 to 12 noon	17	13
December ...	9601	309.7	12.9	642	26.8	48	27th	6 to 7 a.m.	29	2
Year.....	77850	213.6	8.9	763	31.8	44	Jan. 30th	9 to 10 p.m.	239	126

OZONE.

For description of the Standard Instrument used for these Observations, See p. 16.

1898.	Mean Daily Amount.	Greatest Daily Amount.	Direction of Wind.	Date.	Least Daily Amount.	Direction of Wind.	Date.
January ...	% 42.4	% 65	N.W. to S.S.E.	23rd	% 35	E.	17th, 28th
February ...	58.9	80	W.S.W. to W.N.W.	9th	20	W.S.W.	1st
March	60.0	90	E.N.E. to E.	7th	20	N.W. to N.E.	21st
April	52.7	80	S.E. to W.S.W.	29th	20	E. to S.	8th, 24th
May	62.3	90	N.E. to S.	15th	20	N.E. to E.N.E.	23rd
June	64.3	90	S.W. to N.N.W.	24th, 26th	30	E.S.E. to S.E.	5th
July	47.7	85	W.N.W. to N.W.	6th	10	S.S.W. to S.W.	31st
August.....	50.2	70	S.W., W.S.W., N.W.	4th, 6th, 9th	5	E.S.E. to S.S.E.	19th
September..	51.0	80	S.S.W., S.W., N.W.	20th, 29th, 30th	5	E.N.E., E., S.E.	6th, 8th
October ...	44.2	70	S.W.	22nd	20	N.E. to E.	2nd
November..	40.7	60	S. to S.W.	23rd	10	E.N.E. to S.S.E.	12th, 17th
December..	50.8	70	S.W. to W.S.W.	10th, 26th	30	N.N.W.	13th
Year....	52.1	90	Southerly to Westerly.	March 7th, May 15th, June 24th, 26th	5	Northerly to Easterly.	Jan. 17th, 28th Aug. 19th Sept. 6th, 8th



BOROUGH OF TORQUAY.

ANNUAL REPORT
OF
The Sanitary Inspector.

Sanitary Offices,
Arcade Chambers, Torquay,
January 14th, 1899.

*To the Worshipful the Mayor, Aldermen, and
Councillors of the Borough.*

MR. MAYOR AND GENTLEMEN,

I have the honour to lay before the Council, this, my Twenty-First Annual Report, which, I venture to submit, on the whole, is in no wise behind its predecessors, in point of work achieved in every branch of sanitary duty ; and of that progress which has been noted for some years past.

I proceed at once to give the statistical portion of the report, which has been arranged for purposes of comparison with other years, in the following manner :—

- 208 Ordinary Houses were thoroughly examined.
- 111 Villas and Lodging Houses were ditto. There were
- 386 Applications of the Smoke Test, and
- 10 Of the Water Test, where the drains ran under houses.
- 135 New Sanitary Conveniences were fixed.
- 17 Old ditto cleaned and repaired.
- 46 New external Soil-pipes were fixed.
- 60 Old and New ditto were ventilated.
- 44 Other Ventpipes were fixed.
- 61 Fresh Air Inlets were attached to traps, &c.
- 34 Blocked drains were cleared.
- 114 New Interceptors were set, and
- 320 New Stoneware Gully Traps ditto.
- 89 New sets of House Drains laid.
- 3 Old Masonry Drains were destroyed.
- 2 Old Cesspits ditto.
- 26 Waste Water Pipes cut off from drains.
- 27 Yards Cemented and drained.
- 58 Nuisances from Animals and Manure abated.
- 114 Cases of Fumigation, Supplying Disinfectants, and ordering Lime-washing occurred.
- 143 Flushing Cisterns provided for closets, &c.
- 19 Cisterns cleaned or taps from mains fixed.
- 4 Overcrowding cases were abated.

When added together, these figures amount to 1317 sanitary operations, of more or less importance, carried out on 521 separate premises.

In the previous year the figures were 1344 and 614 respectively.

The falling off in the number of cases is attributable to the more exacting nature of the work in those dealt with.

I have periodically visited the Common Lodging Houses, Slaughter House, and Marine Stores, and dealt with insanitary conditions when found.

The Milkshops, Dairies, and Cowsheds have also been inspected, and I have been obliged to direct the owners' attention to the dilapidated state of two of the latter. Promises have been made to deal thoroughly with these in the Spring, when the cows go to grass.

The Superintendent of Police made a report to me of the insanitary state of, and in many instances the inadequacy of, the conveniences provided by the licences of the Borough. With Mr. Watson, I visited the twenty-two reported cases, and served the necessary notices to provide proper accommodation. I am pleased to state that the requirements specified have, in the main, been properly carried out.

The sanitary arrangements of one large Hotel, of a Consumption Home, a Club House, of some Schools, and of the General Post and Parcels Offices, have been carefully overhauled and reported on to the authorities concerned; and with the exception of the latter buildings, which were only examined last month, my recommendations have been duly executed.

A house to house inspection was made of the twenty houses comprising Park Cottages, Upton, where many defects were revealed. Notices to remedy were duly served, and in most instances the necessary work has been done.

With respect to my duties in connection with New Buildings, I have to report that thirty-nine houses were erected during the year, as compared with only twenty-eight in 1897—an increase of 30 per cent. The houses were mostly in the Upton Ward, and some of a better class, with a new Masonic Hall, have been built in the newly opened up district adjoining the Hospital Recreation Ground.

The duties of the office, in addition to keeping the usual books and records duly posted up, have largely increased in the way of correspondence. No fewer than 605 letters were written, as compared with 590 in the previous year ; whilst 71 preliminary notices were issued, as against 52 in 1898 ; and 5 legal notices, as against 2—or a net increase of 57 communications.

It was only necessary to take one case into court (the first for some years,) in which the Council sought to enforce better sanitary accommodation in a business premises ; and after two hearings before the magistrates, the work was executed in a satisfactory manner.

I am, Mr. Mayor and Gentlemen,

Yours obediently,

CHARLES MACMAHON,

Cert. San. Inst. ; Assoc. M.B.I.P.H. ;

Chief Sanitary Inspector and Surveyor of New Buildings.





BOROUGH OF TORQUAY.

ASSISTANT SANITARY INSPECTOR'S REPORT.

Sanitary Offices,
Arcade Chambers, Torquay,
December 31st, 1898.

*To the Worshipful the Mayor, Aldermen, and
Councillors of the Borough.*

MR. MAYOR AND GENTLEMEN,

I have the pleasure to submit to you my First Annual Report, commencing from the 17th of May to the 31st December, 1898.

One hundred and seventy-six houses and premises, with a population of eight hundred and sixty-five, have been inspected, and the drainage tested under the house to house inspection.

In connection with this, one hundred and fifty-five notices have been served to abate the various nuisances found on such examination.

The Districts inspected were :—

Lower Union Lane.	Melville Street.
Melville Lane.	Warren Hill.
Church Lane.	East Street (part).
Brunswick Terrace.	Princess Road.
Warberry Vale Cottages.	Orchard Road (part).

Fifty-five houses and premises were visited and inspected on complaint, or by request. Twenty-one smoke tests were applied, and forty-nine notices served to remedy defects.

One hundred and twenty-nine visits were paid to premises where work was in progress, and also one hundred and twenty-seven smoke tests and thirteen hydraulic tests applied to drains after alterations to same.

Seven houses have been examined and reported upon, and tested for reports. Four have been made, and the conditions not having been complied with in the other three cases, the reports were withheld.

Seventeen rooms have been fumigated, where 7 typhoid fever, 5 scarlet fever, and 3 diphtheria cases occurred. The houses have been examined and the drains tested in ten instances. Twelve notices were served to remedy defects.

Twenty-one licensed houses, situate in various parts of the borough, have been inspected, in conjunction with Mr. MacMahon, in regard to their sanitary conveniences.

One case, where swine were so kept as to be a nuisance, has been removed.

The Market Hall has been constantly visited, and found in a clean and satisfactory condition.

On one occasion a small quantity of meat was found unfit for food, and was destroyed.

One midnight visit was made to Tor Railway Station to inspect and report on a consignment of frozen foreign meat, which appeared to be of good quality.

I remain, Gentlemen,

Yours obediently,

WILLIAM WATSON,

Cert. San. Inst., Sanitary Inspector.





Borough of Torquay.

SCHOOL ATTENDANCE.

Annual Report

For the year ending 31st December, 1898.

TO THE SCHOOL ATTENDANCE COMMITTEE OF THE
BOROUGH OF TORQUAY.

GENTLEMEN,

In presenting the usual Annual Report, I have to inform you that, departing from the former custom of recording the numbers on the books of the schools on the last day of the school year, the numbers given this year are the total average number on the books for the whole of the year.

The teachers' returns are as follows, viz. :—

Year 1898.	Average number on books	3217	Average attendance	2620·2
„ 1897.	„ „ „	3220	„ „	2755·9
	Decrease	3	Decrease	135·7
Year 1898	.. ..	81·4	per cent.	
„ 1897	.. ..	85·5	„ „	
	Decrease	4·1		

The returns for 1898 shew there are 956 Boys, 916 Girls, and 1,345 Infants on the school registers, with an average attendance of 797·7 Boys, 772·8 Girls, and 1,067·7 Infants. 436 of the Infants were under five years of age.

During the year 80 warnings have been issued, and visits made to inquire into complaints of irregular attendance in 3,459 cases.

The School Attendance Committee held 13 meetings and dealt with 293 complaints. 85 summonses were issued, resulting in 54 fines, 7 committals to the Truant School, one to the Mount Edgcumbe Training Ship, and one to an Industrial School. 19 attendance orders were granted and three summonses withdrawn, the costs being remitted.

The fines were fourteen of 5s., one of 4s. 6d., six of 3s. 6d., twenty of 2s. 6d., two of 2s., and eleven of 1s. each.

Total amount of fines £8 0s. 6d., and the costs £20 10s. 0d.

The unpaid fines are two of 2s., irrecoverable through the family being admitted to the Workhouse, 3s., balance of two fines, two of 5s., one of 3s. 6d., one of 2s. 6d., and one of 1s. In the last case a distress warrant was issued, and there being nothing to distrain on, the defendant was committed for seven days.

At the end of 1898 there were three Torquay boys on board the Mount Edgcumbe Training Ship, one in the Devon and Exeter Industrial School, one in the Somersetshire Boys' Industrial Home, and two in the Plymouth Truant School who have been committed to the Institutions named on the application of your Committee. There is also one boy in the West of England Institution for the Blind, chargeable to the Borough.

With reference to the last-mentioned case, your Chairman (Councillor R. Crocker) paid a visit to the Institution in December, and reported the same to your Committee, expressing himself highly pleased with all he saw there.

Since 1st July, a new plan of investigating complaints of irregular attendance has been inaugurated, instead of as formerly visiting all the Schools on Fridays and obtaining the names and addresses of absentees for any part of the current week, and visiting the whole of the parents of the children in the week following, I have now to make surprise visits to the schools at irregular intervals, take the names of the children absent on the half-day of my visit, and call on the parents to inquire the reason. Then, once a month, I get a duplicate register from the Teachers containing the names and attendances of every child on the school books, I have then to copy out the irregulars and visit them before I can report to your Committee, this plan gives me a great amount of extra work in having to go over the same ground three or four times each week. The Head Teachers of the largest school in the Borough have expressed unfavourable opinions of the present method, and are in favour of the former system being adhered to.

I beg respectfully to thank the Committee for their kind support, and remain,

Gentlemen,

Your obedient Servant,

G. R. STONE,

School Attendance Officer.

Dated January 17th, 1899.